

## ABSTRACT

The integrated circuit comprises an interior division circuit to hold a first amount of charge corresponding to a weighted sum of a first analog voltage and a second analog voltage corresponding to a digital signal, an exterior division circuit to hold a second amount of charge corresponding to a difference between the first analog voltage and second analog voltage, and an amplifying circuit to generate a voltage not within the range between the first analog voltage and the second analog voltage by amplifying the voltage depending on the sum of the first amount of charge and the second amount of charge. The integrated circuit may provide a lower consumption and small area integrated circuit which can generate an exterior division voltage of higher accuracy.

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